PTO 04-2603

German Utility Patent No. 299 20 895 U1

SAFETY MECHANISM FOR A FIREARM

UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON D.C. APRIL 2004
TRANSLATED BY THE RALPH MCELROY TRANSLATION COMPANY

FEDERAL REPUBLIC OF GERMANY
GERMAN PATENT AND TRADEMARK OFFICE
UTILITY PATENT NO. 299 20 895 U
(Gebrauchsmusterschrift)

Int. Cl.[7]:	F 41 A 21/32 F 41 A 21/00
Filing No.:	299 20 895.8
Filing Date:	Nov. 27, 1999
Date Laid-open to Public Inspection:	Sept. 7, 2000
Notification Date in Patent Sheet:	Oct. 12, 2000

SAFETY MECHANISM FOR A FIREARM
[Sicherungsvorrichtung bei ener Schusswaffe]

Inventor(s):	[not stated]
Applicant(s):	Blaser Jagdwaffen GmbH

The invention pertains to a safety mechanism for a firearm in order to prevent its unauthorized use.

The Right of Inheritance in Weapons Law stipulates that the heirs of a decedent, who was authorized to bear a firearm, acquire possession of the weapon, regardless of whether said heirs are authorized to bear a firearm or not. Now if we take into account that in Germany alone there are about 10 million firearms in private possession, then this means that there is a significant risk of the misuse of such weapons.

To secure a firearm against unauthorized use, the known state of the art uses a kind of plug-in lock to block the barrel. This kind of safety, however, is insufficient. A lock of this kind can be knocked off.

Of course, it would probably be possible to destroy essential functional parts of a weapon in order to render it useless. But this is not possible when we are dealing with valuable weapons that would decline significantly in value due to this destruction.

The problem is to create a safety that can only be released by a technician.

This problem is solved by the properties of Claim 1. Favorable embodiments are elucidated in the dependent claims.

Two design embodiments will be explained in greater detail below with reference to the figures. We have:

Figure 1 is a cross-section through a barrel with a first design embodiment of the device, shown in exploded representation;

Figure 2 is the device from Figure 1 in the assembled state;

Figure 3 is a representation of an additional design embodiment that corresponds to that of Figure 1; and

Figure 4 is the additional design embodiment of the device in the assembled state.

The devices described below are suitable preferably for short-barrel weapons, but can also be used on long-barrel weapons.

The barrel 1 according to Figures 1 to 4 features, as usual, a chamber 2 with a shoulder 3.

The safety mechanism is composed of a breech section 4, a rod 5 and an installed element 6. The breech section 4 has a head 7 that forms a single piece with a cylindrical lug 8. A threaded hole 9 has been created in the cylindrical lug 8. The diameter of the lug 8 is slightly smaller than the diameter of the caliber of the barrel. The head 7 is designed externally as ball-like and has a diameter that corresponds to the diameter of the bevel 10 at the muzzle of the barrel. The head 4 has a surface 11 corresponding to the shape of the bevel 10.

At the front end of the rod 5, there is a threaded lug 12 that can be screwed into the threaded hole 9. A threading 13 is also provided at the rear end of the rod 5.

In the design embodiment according to Figures 1 and 2, the installed element 6 has the contour of a cartridge casing and is smaller than the length of the chamber 2. The installed element 6 is equipped with a threaded hole 14, and the threading 13 of the rod 5 can be screwed into it. The rear end of the installed element 6 can also have a ball-like design.

The threaded connections between the threaded hole 9 and the threaded lug 12 and between the threading 13 and the threaded hole 14 are provided preferably with an adhesive that provides a significant resistance to the detaching of the threaded connections. In this case, a two-component synthetic adhesive can preferably be used in a microcapsule format, wherein the microcapsules break open when the threaded joints are closed. Adhesives of this kind can resist a temperature of over 150°C.

But instead of threaded connections, it is also possible to create permanent connections between the breech section 4 and the rod 5 and also between the rod 5 and the installed element 6. In this case, for example, the connection may be a notched pin connection, a force-fit connection or a rivet connection.

The material used for the manufacture of the breech section 4 and the installed element 6 should be selected so that it will resist manipulation with standard machine tools, such as files or drills. In this regard, a preferred material will be a hard metal or an impact-resistant ceramic

material. For example, if a tool is applied to the balled head 7 or to the balled end of the installed element 6, then it will merely slide off.

If the safety is to be removed, then the edge of the head 7 can be detached by spark erosion, as is indicated by the arrows in Figure 2. If this edge has been detached so that the head 7 has a diameter that is less than the diameter of the caliber of the barrel, then the device can be extracted from the rear of the barrel 1.

In the design embodiment according to Figures 3 and 4, instead of the threading 13, several transverse depressions 15 are used. In this design embodiment, the installed element consists of an empty cartridge casing 16. This cartridge casing 16 is filled with a hardening cement to which corundum and/or hard metal granulate has been added. This material is exceptionally resistant to conventional machine tools, in particular to drills.

For assembly of the device, the cement-filled cartridge casing is installed into the chamber, and then the rod 5, to which the breech section 4 is attached, is inserted through the barrel, whereby the part of the rod 5 equipped with the rills 15 will be immersed into the cement.

To detach the safety device, the procedure as described based on Figures 1 and 2 can be used.

Claims

1. Safety mechanism for a firearm in order to prevent its unauthorized use, characterized in that it has a breech section (4) installable in the muzzle end of a barrel (1), said breech having a head (7) extending past the muzzle and being made of a material that can only be processed by means of spark erosion; a rod (5) running into the chamber (2) is rigidly connected with this head (4), and the end of the rod (5) is rigidly connected on the chamber side to an installed element (6), located in the chamber, with a diameter greater than that of the barrel caliber and made of material that cannot be drilled with a borer.

2. Safety mechanism according to Claim 1, characterized in that the head (7) has a surface (11) adapted to the bevel (10) at the muzzle end and has an outer diameter that corresponds to the outer diameter of the bevel (10).

3. Safety mechanism according to Claim 1 or 2, characterized in that the breech section (4) has a cylindrical lug (8) engaging in the barrel; this lug forms a single piece with the head (7), and the rod (5) is rigidly connected to it.

4. Safety mechanism according to one of Claims 1 to 3, characterized in that the outside of the head (7) has a ball design.

5. Safety mechanism according to one of Claims 1 to 4, characterized in that the breech section (4) is made of hard metal.

6. Safety mechanism according to one of Claims 1 to 4, characterized in that the breech section (4) is made of an impact-resistant ceramic material.

7. Safety mechanism according to one of Claims 1 to 6, characterized in that the connection between the breech section (4) and the rod (5) consists of a threaded connection that is secured against loosening by an adhesive.

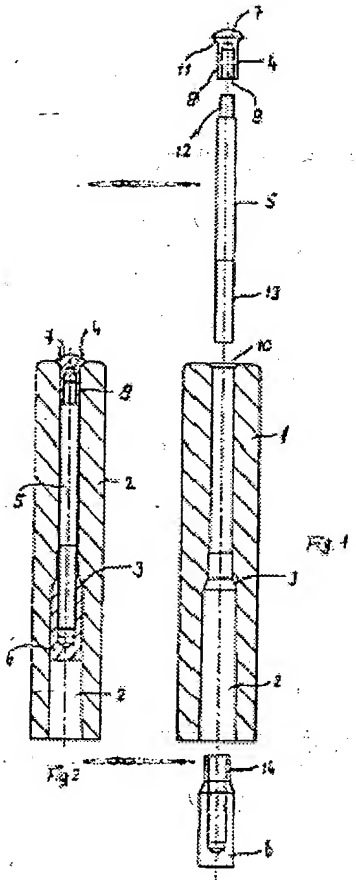
8. Safety mechanism according to one of Claims 1 to 6, characterized in that the connection between the breech section (4) and the rod (5) consists of a notched pin connection, a force-fit connection or a rivet connection.

9. Safety mechanism according to one of Claims 1 to 8, characterized in that the installed element (6) located in the chamber (2) has a cartridge shape.

10. Safety mechanism according to Claim 9, characterized in that the installed element (6) consists of the same material as the breech section.

11. Safety mechanism according to Claim 9, characterized in that the installed element (6) consists of a cement-filled cartridge casing (16) into which the rod (5) is immersed.

12. Safety mechanism according to Claim 11, characterized in that the cement is mixed with corundum and/or with hard metal granulate.



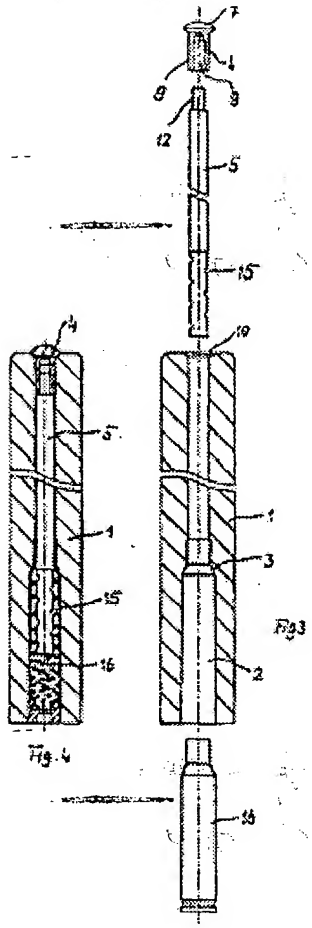


Fig.3

Fig.4